

In the claims

1. (Previously Amended) A regenerable Nickel (Ni) catalyst for a hydrocarbon reforming process, said catalyst comprising discrete Ni crystallites formed on a support element by a several incipient wetness steps process incorporating a plurality of Ni impregnation cycles, said catalyst being capable of withstanding at least 6 catalyst regenerations without significantly inhibiting it's catalytic activity in said reforming process, said Ni crystallites positioned in the inner surface of said support element, said crystallites having a crystallite characteristic dimension of between 5 and 1000 Å and a dispersion on said support element of no more than 0.2 square meter of exposed nickel/ square meter of support surface.
2. (Previously Amended) A catalyst as defined in claim 1 wherein said support element is selected from the group consisting of alumina and zeolite.
3. A catalyst as defined in claim 1 wherein said support element comprises alumina.
4. (Currently Amended) A catalyst as defined in claim 3 wherein said crystallite characteristic dimension in the range of between 10 and 1000Å average size and a distribution on said support element of no more than ~~0.2~~ 0.14 m² of exposed nickel /m² of said support surface.
5. (Currently Amended) A catalyst as defined in claim 3 wherein said characteristic dimension is in the range of between 150 Å and 250 Å and a distribution on said support element of no more than ~~0.16~~ of said 0.14 m² of exposed nickel / m² of said support surface.
6. A catalyst as defined in claim 4 wherein said alumina is α alumina.
7. A catalyst as defined in claim 5 wherein said alumina is α alumina.
8. A catalyst as defined in claim 1 wherein said support element comprises zeolite.
9. (Previously Amended) A catalyst as defined in claim 8 wherein said characteristic dimension is in the range of between 5 Å and 100 Å and a distribution on said support element of no more than 0.15 m² nickel exposed / m² of said support surface.
10. (Previously Amended) A catalyst as defined in claim 8 wherein said characteristic dimension is in the range of between 10 Å and 70 Å of no more than 0.10 m² nickel exposed / m² of said support surface.
- 11 (Previously Amended) A catalyst as defined in claim 9 wherein said zeolite is selected from the group consisting of NaY (sodium exchanged Y zeolite) and USY (ultrastabilized Y zeolite).

12. (Previously Amended) A catalyst as defined in claim 10 wherein said zeolite is selected from the group ultrastabilized Y zeolite.
13. (Previously Amended) A catalyst as defined in claim 1 wherein said support element has an average size in the range of between 5 and 200 microns.
14. (Previously Amended) A catalyst as defined in claim 1 wherein said support element has an average size in the range of between 20 and 100 microns
15. (Previously Amended) A catalyst as defined in claim 6 wherein said support element has an average size in the range of between 5 and 200 microns.
16. (Previously Amended) A catalyst as defined in claim 6 wherein said support element has an average size in the range of between 20 and 100 microns.
17. (Previously Amended) A catalyst as defined in claim 7 wherein said support element has an average size is in the range of between 5 and 200 microns.
18. (Previously Amended) A catalyst as defined in claim 7 wherein said support element has an average size in the range of between 20 and 100 microns.
19. (Previously Amended) A catalyst as defined in claim 11 wherein said support element has an average size in the range of between 5 and 200 microns
20. (Previously Amended) A catalyst as defined in claim 11 wherein said support element has an average size in the range of between 20 and 100 microns.
21. (Previously Amended) A catalyst as defined in claim 12 wherein said support element has an average size in the range of between 5 and 200 microns.
22. (Previously Amended) A catalyst as defined in claim 12 wherein said support element has an average size in the range of between 20 and 100 microns.
23. (Previously Amended) A reforming process comprising reforming hydrocarbons in the presence of a catalyst in a reaction zone, said catalyst being Nickel (Ni) catalyst of discrete Ni crystallites formed on a support by a several step incipient wetness process incorporating a plurality of Ni impregnating steps, said crystallites having a maximum dimension [measures in any one direction] in the range of between 5 and 1000 Å and a dispersion on said support of no more than 0.2 square meter of nickel exposed metal/ square meter of said support, said support being selected from the group consisting of alumina and zeolite materials, recycling said catalyst to and from said reaction zone, regenerating between 10 and 100 % of the catalyst being recycled in a regeneration zone to provide a regenerated catalyst and returning said regenerated catalyst to said reaction zone.

24. A reforming process as defined in claim 23 wherein said support comprises zeolite and said reforming process is a dry reforming process.

25. A reforming process as defined in claim 23 wherein said support comprises alumina and said reforming process is a steam reforming process.

26. (Previously Added) A catalyst as defined in claim 6 wherein said Ni crystallites are present in the amount of up to 20 wt%.

27. (Previously Added) A catalyst as defined in claim 7 wherein said Ni crystallites are present in the amount of up to 20 wt%.

28. (Previously Added) A reforming process as defined in claim 25 wherein said Ni crystallites are present in the amount of up to 20 wt%.